the *Erigenia bulbosa* of the middle United States. This little plant is probably the earliest of the region to bloom (excepting the chick-weeds and other plants which never cease blooming). For the Republica Oriental has a well-marked spring season, however mild its winters may be.

(*To be continued.*)

Another Florida Fern.

On the south bank of the Miami River, a short distance below the rapids, I collected, on the first of March of this year, a fern which appears to be *Nephrolepis acuta*, Presl., not reported as having been found before in the United States. It was very abundant at that one place, though not seen elsewhere. Fruit-bearing fronds were rare at that time, and the few that were obtained were past their prime maturity. However, a few sori with indusia in good condition remain. Specimens were submitted to Prof. Eaton, and he says: "I have very little doubt that your fern is really *Nephrolepis acuta*, a somewhat rusty-pubescent variety." ISAAC HOLDEN.

[Mr. Holden's specimens were compared with those of Fendler's Plants of Trinidad, No. 55; Wright's Plantæ Cubenses, No. 1,011, and Hayes' Filices Centrali-Americanæ, No. 15, with all of which they agree in having almost circular indusia, subpeltate in the attachment.—ED.]

Index to Recent American Botanical Literature.

Aquatic Plants of the vicinity of San Diego.—C. R. Orcutt. (West. Am. Sci., iii., pp. 123-126.)

Botany of California and Parts Adjacent.—Studies in the.—VI. Edward Lee Greene. (Bull. Cal. Acad. Sci., ii., pp. 377–418; reprinted.)

Professor Greene's sixth contribution to the Botany of our West Coast, opens with "Notes on the Botany of Santa Cruz Island," giving a most interesting account of the character of the Flora and its relations to that of the other islands of our "Southwestern Archipelago," and of the mainland. He suggests that many of the rarer species of Southern California have originated on these islands and they may have formerly been

connected with some other land area than America, and cites many facts which would tend to give weight to this theory.

"A Catalogue of the flowering plants and ferns of the Island of Santa Cruz" enumerates 321 species, more than 25 of which have not yet been found on the mainland. We find the following new species in this list:

Thysanocarpus ramosus; Hosackia (?) occulta, Bigelovia venata, var. *sedoides; Eriophyllum stœchadifolium*, Lag., var. *depressum*; *Cnicus lilacinus; Stachys acuminata* and *Typha bracteata*, the latter a giant of its kind, being 15 to 18 feet high, with staminate and pistillate spikes 12 to 16 inches long. He also makes the following changes in nomenclature:—*Cardamine integrifolia* (=*Dentaria integrifolia*, Nutt.) and *C. Nuttallii* (=*D. tenella*, Pursh.); *Arabis filifolia* (=*Cardamine filifolia*, Greene); refers the Water Cress to *Nasturtium aquaticum*, Tragus, 1552; and *Comarostaphylos diversifolia*, (=*Arctostaphylos diversifolia*, Parry.) By using the oldest specific name of three other plants he gets three additional species: *Sisymbrium pinnatum* (*Erysimum*, Walt.; *S. canescens*, Nutt.); *Plagibothrys Californicus*, (*Echidiocarya*, Gray; *P. Cooperi*, Gray); and *Distichlis spicata*, (*Uniola*, L., *D. maritima*, Raf.) We presume that this will not be acceptable to everybody, and would suggest that it would be well to have some conventional rule in the matter, which all might follow, otherwise there is sure to be an appalling conflict of authority. It appears to the writer that if we are ever to get species correctly and satisfactorily located, we must all follow the same usage. This would be a worthy subject for discussion by the botanists of the American Association.

Professor Greene's paper closes with descriptions of *Horkelia Kelloggii*, (*H. Californica*, var. *sericea*, Gray); *Horkelia Parryi*, from Amador County, and *Convolvulus Binghamiæ* from Santa Barbara. N. L. B.

Bulletin of the Iowa Agricultural College, from the Botanical Department.—Byron D. Halsted, Professor of Botany. (Pamphlet, 8vo, pp. 66. Cedar Rapids, 1887.)

This valuable publication contains so much interesting matter that it can hardly be justly reviewed in the limited space at our command. Part I treats of work with the students, and indi-

cates a great deal of interest on their part. The root of *Sanguinaria Canadensis* offers a very satisfactory material for the study of pigment-cells; young prothalli of Equiseta from spores germinated on moist sand, were easily obtained and proved of great interest; the pollens of several plants were critically studied; hop leaves are recommended for chlorophyll and cucumber placentæ for inulin. Part II is devoted to a record of observations and experiments by the professor, and accounts are given of the germination of Ergot (*Claviceps purpurea*, Fr.,) from *Elymus Canadensis*; the adhesive bands of *Silene antirrhina*; on the insectivorous habit of *Silphium perfoliatum*; observations on *Cnicus altissimus*; a calendar of leafing of trees and shrubs, the time of first blooming of spring and early summer plants; notes on the Peronosporæ and the Ustilagineæ; a list of Colorado Fungi collected with Dr. Bessey in Central Colorado in 1886, and many other matters of botanical and agricultural interest.

Cupressus Nutkaensis. (Garden, xxxi., p. 502.)

Epipactis latifolia.—Fertilization of.—A. D. Webster. (Bot. Gazette, xii., pp. 104–109, from Trans. and Proc. Bot. Soc. Edinburgh, xvi.)

Grasses of the South.—George Vasey. (Dept. Agric., Botanical Division, Bull. No. 3. Pamph., 8vo, pp. 63, 16 plates, Washington, 1887.)

This paper is the outcome of a circular letter sent a few months since by Commissioner Colman to residents of the South and Southwest, asking for information regarding forage plants. It is thus "a report on certain grasses and other forage plants for cultivation in the South and Southwest," and much valuable information is contained in its pages. The species illustrated are *Paspalum dilatatum*, *Panicum maximum*, *P. sanguinale* and *P. Texanum*, *Sorghum halepense*, *Phalaris intermedia*, *Sporobolus Indicus*, *Holcus lanatus*, *Arrhenatherum avenaceum*, *Cynodon Dactylon*, *Poa arachnifera*, *Bromus unioloides*, *Erodium cicutarium* (Alfilaria), *Medicago sativa*, *Lespedeza striata* and *Richardsonia scabra.*

Iris.—Our "tripetalous" Species of.—Sereno Watson. (Bot. Gazette, xii., pp. 99–101.)

An account of the confused synonomy of the *I. tripetala*,

Walter, of the Southern States and the *I. Hookeri*, Penny, of Canada.

Lichens.—An Introduction to the Study of.—Henry Willey. (Pamph., 8vo, pp. 58; 10 plates. New Bedford, 1887.)

All who are interested in this peculiar class of plants will heartily welcome this work of Mr. Willey, and it must give an impetus to their study by American botanists. It contains chapters on collecting and mounting Lichens; on their structure and organs, under which heading the Schwendener theory is briefly discussed in connection with the more recent investigations of Minks, and we must confess to a certain sense of relief in reading, that "for the present and for practical purposes the Lichen remains a Lichen;" the geographical distribution of North American species is discussed and the Flora divided into six districts, (1) Arctic; (2) Alpine; (3) Atlantic; (4) Southern; (5) Western; (6) Pacific; there are also chapters on the history of Lichens, helps to the study of Lichens, and the arrangement of North American Lichens, a very convenient key to the 76 genera being given. The work is concluded by a list of published North American species, with habitats, and here the following new species are described: *Buellia Catawbensis* (see this BULLETIN, p. 134 and Bot. Gazette, xii., p. 115); *Opegrapha levidensis; Arthronia carneo-rufa*; *A. Floridana; A. erubescens; A. vernans*, *A. Ravenelii*, Tuckerm., ined.; *A. gregarina*; *A. melanospora*, Tuckerm.,, ined.; *A. caudata*, and *A. subcyrtodes*. The plates illustrate various phases of the structure of thallus, gonidia, apothecium, spermagones and pycnides, and the spores of all North American genera enumerated. The pamphlet is published at the low price of $1.00, and is remarkably well printed. Copies may be obtained from the author, at New Bedford, Mass.

Mertensia Virginica—How Humblebees extract Nectar from.—J. Schneck. (Bot. Gazette, xii., p. 111.)

Monotropa uniflora a Parasite?—George Baptie. (Ottawa Nat., i., pp. 40–43.)

This question was discussed at a recent meeting of the Ottawa Field Naturalist's Club, and considerable difference of opinion expressed, and the suggestion made that the Ottawa Field Naturalist's Club investigate the matter during the coming summer.

Nantucket—The Wild Flowers of.—Mrs. H. R. Luney. (Vick's Ill. Month. Mag., x., pp. 166–168.)

Nymphæa lutea in Brazoria County, Texas.—E. H. Hitching. (Bot. Gazette, xii., p. 109.)

Orchids—Hardy American. (Gard. Chron., i., 3d Series, p. 682.)

Notes on *Calypso borealis, Cypripedium pubescens* and *C. spectabile, Goodyera pubescens*, and several *Habenarias.*

Pasque Flower—Anemone Pulsatilla. (Vick's Ill. Month. Mag., x., p. 177; one cut.)

Pinus Strobus. (Garden, xxxi., p. 404; two figures.)

Sassafras officinale.—W. Goldring (Garden, xxxi., p. 449, figure.)

Scoliopus Hallii, Watson.—Thos. Howell. (Bot. Gaz., xii., p. 111.)

A description of the floral characters of this species, from plants collected by Mr. Howell at the original locality.

Staining and Mounting Plant Sections.—C. Wellington. (The Microscope, viii., pp. 133, 134.)

Weeds of Southwestern Wisconsin and Southeastern Minnesota.—L. H. Pammel. (Pamph., 8vo; pp. 20, Saint Paul. 1887.)

A list of 88 plants, more or less troublesome as weeds, "a contribution to the flora of La Crosse and vicinity."

Proceedings of the Club.

The regular monthly meeting was held on June 14th, the President in the chair, and 28 persons present.

Miss C. A. Timmerman was elected an active member, and Dr. Walter H. Chapin, of Springfield, Mass., and Miss M. A. Booth, Longmeadow, Mass., were elected corresponding members.

The Field Committee reported the following noteworthy plants detected on recent excursions: *Orchis spectabilis*, at Inwood; *Cystopteris fragilis*, near West New Brighton; *Stellaria graminea, Trifolium hybridum, Lysimachia thyrsiflora*, at Little Ferry, N. J.; *Glyceria distans* and *Polygonum ramosissimum*, at New Lots, L. I. It also reported that the excursion to Tom's River, N. J., May 28-30, in company with delegations from the Academy of Natural Sciences, of Philadelphia, had been successfully carried out and had proved an occasion of much mutual pleasure and profit.